COLLEGE OF VETERINARY SCIENCE & ANIMAL HUSBANDRY
KUTHULIA, REWA (M.P.)

TENDER NOTICE

No 557/ Store / Purchase / 2015 Dated 15/01/2015

Sealed tenders are invited from the reputed firms, manufacturers and their authorized dealers for the supply of laboratory equipments for CoVSc & AH, Rewa on terms and conditions as mentioned in the tender documents. The tender documents including detailed specifications, terms and conditions of supply can be directly downloaded from our website **www.mppcvv.org .** Tenders may be submitted along with EMD and other documents positively by 06-02-2015 (5.00 P.M.) to the undersigned by **Registered / Speed Post Only**. Tenders will be opened on the 07-02-2015 at 3.00 P.M.

DEAN
College of Vety Sci & AH
Kuthulia, Rewa (MP)

ANNEXURE – I

TECHNICAL SPECIFICATIONS FOR THE EQUIPMENTS / INSTRUMENTS ABOVE 1 LAKH

	Name of equipments/ instruments	Technical specification of the equipments/instruments for Tender 2014-15
1	**Fluorescent Microscope**	1. System must be a single compact integrated unit including: cell imaging system, digital camera, computer, high power fluorescence lighting system and LCD display and imaging Software 2. Fluorescence LED light cube must be a single, interchangeable cube can be easily removed and installed. 3. Fluorescence LED illuminators must have a lifetime of 50,000 hours at 100% power 4. System must automatically recognize which cube is installed and adjust the software configuration accordingly 5. LED illuminators must have independent intensity control 6. System must be able to simultaneously accommodate 4 fluorescent LED light cubes 7. System must include an integrated high-sensitivity monochrome interline CCD camera with 1.4 million 6.45um pixels 8. System must be able to accommodate a minimum of 5 objectives at once 9. System must include a rack and pinion focus mechanism 10. System must include a rack and pinion “glide” stage with SBS microplate opening and accessory vessel holders 11 . The entire system footprint including all computer and monitor components must not exceed a 18.5” deep x 14.0” wide footprint 12. System must consume less than 20 Watts/hr with all illumination sources turned to the ON position 13. System must provide a 1-click RGB channel overlay 14. System must be able to sequentially acquire a phase contrast image and a fluorescence image with a single mouse click, then overlay them automatically 15. System must include time lapse imaging capability with automatic .avi movie creation 16. System must include manual cell counting capability 17. System must include free downloadable software updates 18. System must include multiple user accounts 19. System must have at least one DVI output port and three USB output ports 20. System must support direct output to USB and networked storage 21. System must provide the following output file formats: jpg, bmp, tif, and png **Accessories:-**

<table>
<tr><td></td><td></td><td>1. System must include 2 independent high output LED illuminators with integrated hard coated fluorescence bandpass excitation and emission filters for each cube GFP (470/22 ex; 510/42 em) & RFP (531/40 ex; 593/40 em)
2. Objectives included should be phase compatible 10x, 40x and Oil immersion 100X objective
3. Compatible vessel holders should be provided for Dual slide holder & Universal holder.</td></tr>
<tr><td>2</td><td>Biosafety cabinet- III (three)</td><td>1. Quantity required=1
2. Safety of laboratory worker and safety of all staff while handling biohazard level II organism a biosafety cabinet III (three) is needed
Airstream Class III biohazard safety cabinet

<table>
<tr><td colspan="2">General specification</td></tr>
<tr><td>External dimensions (WxDxH)</td><td>1340x850x2250mm</td></tr>
<tr><td>Internal work zone (WxDxH)</td><td>1240x650x650mm</td></tr>
<tr><td>Number of glove ports</td><td>2 ports</td></tr>
<tr><td>Air volume (at initial velocity)</td><td>603 cmh/355 cfm</td></tr>
<tr><td>Cabinet negative pressure</td><td>274Pa/1.1 in H2O (exceeds EN12469:2000 requirement of 199.3Pa/ 0.8in H20 and NSF49 requirement of 124.5 Pa/ 0.5in H20</td></tr>
<tr><td>Standards compliance</td><td>Individually performance tested and certified at factory under controlled conditions for:
General requirement: IEST-RP-CCOO2.2 and AS1386.5
Air cleanliness: ISO 664.1 class 3, IEST-G-CC1001, IEST-G-CC1002 and other equivalent air cleanliness requirements
Filter performance: IEST-RP-CC034.1, IEST-RP-CC007.1, IEST-RP-CC001.3 and EN1822
Electrical safety: IEC 61010-1/EN61010-1/UL3101-1/CSA C22.2 No.1010-92</td></tr>
<tr><td>Air cleanliness within working area</td><td>ISO 14644.1 Class 3, US federal standard 209 E class1/M1.5, AS 1386 Class 1.5, JIS B9920 class 3, BS5295 class C, Class M10,000 as per KS 27030.1 and other equivalent cleanliness classifications of the VDI 2083 and AFNOR X44101</td></tr>
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		main filter type	Down Flow	ULPA filter with integral metal guards and filter frame gaskets; fully compliant with EN1822 and IEST-RT-CC001.3 requirement
			exhaust	2 ULPA filter with integral metal guards and filter frame gaskets; fully compliant with EN1822 and IEST-RT-CC001.3 requirement
		Main filter efficacy ratings	**Down flow**	Minimum: 99.997% at 0.3µm/ 99.988% at 0.12µm/99.987% at MPPS Typical: 99.999927% at 0.3 µm/ 99.9977% at 0.12 µm/99.9972% at MPPS
			1st exhaust	Minimum:99.99962% at 0. 3µm/99.99965 at 0.12 µm/99.99946% at MPPS Typical: 99.999928% at 0.3 µm/ 99.99996% at 0.12 µm/ 99.999924% at MPPS
			2nd exhaust	Minimum:99.99916% at 0. 3µm/99.99965 at 0.12 µm/99.9982% at MPPS Typical: 99.99983% at 0.3 µm/ 99.99979% at 0.12 µm/ 99.999971% at MPPS
		Pre-filter		Disposable and non-washable polyester fiber with 85% arrestance/EU3 rated
		Noise filter		Typically< 60dBA at initial blower speed setting measured as per EN 12469:2000, based on 4 feet cabinet, subject to acoustic properties of test environment
		Light intensity		>1200lux/>111 foot candles, measured at work surface level (zero background) as per IEST-RP-CC00.2
		Main body construction		1.5mmt/0.06”/16 gauge electro-galvanised steel with white oven-baked epoxy powder-coated finish.
		Front widow construction		Colourless and transparent UV-absorbing 8mm/0.31” tempered glass
		Work surface construction		1.2mmt/0.05””/18gauge stainless steel grade 304

<table>
<tr><td></td><td></td><td>
<table>
<tr><td rowspan="2">Maximum power consumption /current</td><td>220-240VAC/ 50Hz 1 Ph</td><td>1144W/4.97 A</td><td>1164W/5. 6A</td><td>1180/5.13A</td></tr>
<tr><td>110-130 VAC/60 Hz 1ph</td><td>1632W/13.6 A</td><td>162W/13. 77A</td><td>1668W/13.9 A</td></tr>
<tr><td>Net weight approx.</td><td></td><td>351.5kgs/775 lbs</td><td>439.4kgs/ 969lbs</td><td>527.3kgs/11 63lbs</td></tr>
<tr><td colspan="2">Max. shipping weight</td><td>601 kgs/1325lbs</td><td>751.2kgs/ 1656 lbs</td><td>901.5 kgs/1988lbs</td></tr>
<tr><td colspan="2">Max shipping dimensions (WxDxH)</td><td>1995x1300x 2759mm</td><td>2245x130 0x2750 mm</td><td>2550x1300x 2750mm</td></tr>
<tr><td colspan="2">Max shipping volume</td><td>7.13cbm/251 .8cdf</td><td>8.03cbm/2 83.6cbf</td><td>9.12cbm/32 2.07cbf</td></tr>
<tr><td colspan="2">VOLTAGE STABILIZER</td><td colspan="3">Voltage regulator of appropriate rating to be included to cope with 160-260V</td></tr>
</table>
</td></tr>
<tr><td>3</td><td>Trinocular microscope and digital SLR camera</td><td colspan="2">Complete with built-in 6V20W halogen light illuminator with universal power supply 100V~240V through SMPS circuit, quadruple ball bearing inward nosepiece, focusing by co-axial coarse and fine focusing controls, high resolution Infinity Corrected Plan Achromatic Objectives 4x, 10x, 40x spring, 100x oil spring with an inclined Seidentopf Trinocular observation tube rotatable through 360 degree fitted with fungus resistant, anti-reflection coated prism, compensating widefield paired eyepiece WF10x (F.N.20) and with right hand co-axial low drive mechanical stage, substage Abbe condenser 1.25 N.A with iris diaphragm focusable with rack & pinion and with blue Filter. Plan Infinity Optics, Excellent Field Flatness, F.N.20, Seidentopf Head, hard coated stage with double slide holder, Easily replaceable lamp, Inward facing nosepiece, upper limit stopper for prevent the specimen in high magnification observation, Universal Power supply ensures constant voltage & International Build Quality.
EOS series Interchangeable Lens Type Live View 18 mega pixels Digital Camera body having CMOS sensor with USB interface along with one zoom lens (EFS 18~55mm), rechargeable battery with charger, USB cable, camera software, compatible 8GB memory card etc.</td></tr>
<tr><td>4</td><td>Inverted</td><td colspan="2">Completely integrated “all-in-one” inverted cell imaging system:</td></tr>
</table>

	phase contrast microscope	1. Microscope should be a Single compact unit including: inverted microscope, digital color camera, computer and LCD display and imaging software 2. Must have Long life LED illumination (up to 50,000 hours) 3. Microscope must have a Color camera built-in to the microscope base 4. System should have a 5-position objective turret 5. Instrument should provide flexibility for wide selection of objective options • Long Working Distance (LWD), phase-contrast objectives, Transmitted light LWD air objectives and coverslip corrected objectives • Objectives included should be phase compatible 10x, 40x and Oil immersion 100X objective 6. Instrument should have Rack and pinion focus mechanism 7. Rack and pinion "glide" stage with SBS microplate opening and accessory vessel holders 8. Compact footprint; the entire system should be easily moved into a cell culture hood or glove box 9. Instrument must have Low power consumption (less than 20 Watts/hr) 10. Instrument should have On-board software applications • Time Lapse with .avi movie creation • Manual Cell Counting • Downloadable software updates • Multiple user accounts 11. Instrument should have One DVI port and three USB output ports 12. Direct output to USB or networked storage device 13. Supported output file formats: jpg, bmp, tif and png.
5	**Automatic distillation system for protein estimation**	Autosequencing Microprocessor based PC Compatible Distillation System with in-built software with 50 Predefinable User Storage Auto Sequence Programmes. Automatic sequencing with auto Intelligent run of programmable steps which include Automatic Dilution, Automatic Boric Acid addition, Automatic Alkali Addition, Automatic Steam injection, Process over indication with alarm with delay time features, Automatic Titration Connectivity feature for future upgradation, Microbrilliant distillate control with adjustable sensor, Two line Alpha numeric Digital LCD Display, Inbuilt safety features with CE Certification to fulfill all statutory requirement of Good laboratory Practice. Automatic sensing of no water condition in the condenser with auto alarm and warning signal to alert user. Auto deactivation of operation after few minutes of warning on no water condition in case of user non availability, Automatic measuring and monitoring of high

<table>
<tr><td></td><td></td><td>temperature in distillate with auto warning signal and alarm to control distillate temperature, Auto door open warning indication, Auto tube insert error indication, Auto deactivation of System on error diagnosis, Automatic Reagent level sensor with alarm, Adjustable steam power, Auto online water saving mechanism, Stainless steel non corrosive steam Generator, Perilstatic pump for reagents addition. ISO 9001: 2008 Certified. Electrical Requirement - 220 - 230V/50Hz.</td></tr>
<tr><td>6</td><td>Hormone analyser</td><td><table>
<tr><td>1. Measurement double tube mode and stat function</td></tr>
<tr><td>2. spectral range 400 – 600 nm</td></tr>
<tr><td>3. Touch screen display</td></tr>
<tr><td>4. Ultra low noise PMT with single photon counting</td></tr>
<tr><td>5. More than 100 test can perform</td></tr>
<tr><td>6. Tumors marker, fertility thyroid, torch, cardiac drugs, kidneys, one metabolism, anemia cardiac, hepatic ebv, hepatitis and others test can perform</td></tr>
<tr><td>7. Ceramic piston pump with two injectors</td></tr>
<tr><td>8. Small RFID label for all information of reagent and calibration</td></tr>
<tr><td>9. Kits should have 2 calilbrator and 2 control</td></tr>
<tr><td>10.For quality of instruments cheque provide light cheque</td></tr>
<tr><td>11. Preset 10 point master curve with just two point calibration for adjustment</td></tr>
<tr><td>12. tube can use 12 x 60 mm</td></tr>
<tr><td>13.RLU , LIA and QUAL assay mode for quantity and quality testing</td></tr>
<tr><td>14. Advance processor with software for data input, results summary, quality control, results storage and inquiry</td></tr>
<tr><td>15. Built in printer</td></tr>
<tr><td>16. Users friendly software and easy to use</td></tr>
<tr><td>17. Instrument have ISO and CE certified</td></tr>
<tr><td>18. Local service engineer is available</td></tr>
<tr><td>19. Power supply 230 v</td></tr>
<tr><td>20. Light weight not more then 10 kg</td></tr>
</table></td></tr>
<tr><td>7</td><td>FULLY AUTOMATED 3 PART HEAMATOLOGY ANALYZER</td><td>1. The system should be a fully automated 22 parameter 3 part heamatology analyzer and should include the three part differentiation in the form of Lymphocyte, Mid cells and Granulocyte.
2. The system should analyze with a minimum speed of 75 to 80 tests/ samples per hour.
3. Sample volume should not be more than 25ul in normal mode and not more than 50ul in pre diluted mode.
4. The system should display all the 22 parameters and the histograms.</td></tr>
</table>

		5. The system should have open tube system and should have a automatic sample rotor to hold the sample. 6. The system should have a minimum of 2 chambers for measurement of WBC and RBC. 7. The system should work on the principle of Electrical impedence method and the sample aspiration should be through the use of syringe technology and not through SRV. 8. The system should have a aperture of 70um for RBC and 100 um for WBC measurements. 9. The system should be available with different sample modes like, goat, canine, sheep, cattle and other veterinary purposes. 10. The system should have facility for high voltage pulse for cleaning of aperture after every sample analysis. 11. The system should have manual and automatic calibration for the parameters of WBC, HGB, RBC, PLT, MCV, HCT, RDW, and MPV. 12. The system should have an easy to use menu driven user interface with touch screen with separate START button and with Status of the test LED. 13. The system should have a minimum storage capacity of at least 10,000 tests with histograms of WBC, RBC and PLT on board. 14. The system should be able to perform only HB, TC and DC when required without performing the other parameters like RBC and PLT for saving of reagents. 15. The system should have an internal printer and should have an additional USB interface for connecting to an external printer. 16. The system should be compact in size and should use minimum power of not more than 60W operating power. 17. The system should be an CE approved product.
8	**Deep Freezer**	➢ -86^{o}C freezer capacity : 24000 samples of 2ml tubes ➢ Programmable Temp. Range from -20°C up to –86°C in increment of 1°C even at ambient temp up to 32°C ➢ The Capacity should be 410 liter ➢ Low Power consumption: 8.7Kwh per day ➢ It should have S.M.A.R.T. plus Diagnostic Software: System Monitoring & Reporting Technology Software built –In for fault

		diagnosis or set point variance. ➢ System should be single door with 5 compartments ➢ The freezer must have Heated air Vent to prevent ice formation with Spring-Assisted plunger to remove vacuum for easy opening. ➢ Performance - Pull Down to -85°C 5.6 hours 5.5 hours 5 hours Sound 51 dBA 56 dBA 54 dBA Uniformity ±5°C ±5°C ±5°C ➢ Heat Output 505 Watts 520 Watts 580 Watts ➢ The system should have Non- Volatile memory & Auto re-start and Battery Backup for the display ➢ The system must come with 4-digit password protection for temp. & alarm set-points ➢ CFC Free and HCFC free refrigerants with biodegradable Polyolester oil compressor. ➢ High efficiency freezers use high efficiency vacuum insulation panels in addition to a think polyurethane, providing a full 130 mm thick layer for superb insulating efficiency.
9	**PCR**	**Format:** 0.2 ml tubes, 96-well plate **Capacity:** 96 x 0.2 ml tubes, 1 x 96-well plate **Block Format:** 0.2 ml Alloy Block **Reaction Volume Range:** 10-80 µL **Reaction Speed:** Fast, Standard **Accuracy:** ±0.25 °C (35 °C to 99.9 °C) **Program Features:** Auto re-start (after power outages), Program overwrite protection **Dimensions:** Height: 24.5cm (9.6 in.), Width: 23.7 cm (9.3 in.), Depth: 48.5 cm (19.1 in.) **Weight:** 11.4 kg (25 lb) **Temperature Range:** 4.0-99.9 °C **Temperature Uniformity:** <0.5 °C (20 sec after reaching 95 °C) **Platform:** Thermal Cycler **Ramp Rate:** Max Block Ramp Rate 3.9 °C⁄Sec, Max Sample Ramp Rate 3.35 °C⁄Sec **Product Size:** 1 instrument **Tm Calculator:** Menu driven through touch screen **Display Interface:** 6.5 in. VGA 32k color with touch screen **Instrument Memory:** USB and On-board **Regulatory Statement:** For Research Use Only. Not for use in diagnostic procedures. **High Throughput Compatibility:** High Throughput-Compatible ➢ The system should be a 96 well Thermal Cycler with 6 separate peltier blocks to provide independent temperature zones to run – six different assays with varying annealing temperatures at the same time. ➢ Each block to accommodate 16 wells and having the ability to set

		up PCR with a specific temperature differential of up to 5 degree centigrade between blocks ➢ Mouse or stylus free navigation capability with VGA colour touch screen allowing for easy intuitive graphical user interface programming ➢ Scalability: capability to interlink up to 11 PCR systems via single Ethernet hub. ➢ The machine should be duly certified / authorized for PCR process and the vendor should produce the certificate for the same. **With Horizontal GEL Electrophoresis** 1. Submarine Tank with comb slots 2. Power supply 50/100V 3. Acrylic comb-pre height adjusted 4. Connecting cord Gel Size: 100x70mm Dimension MM:160x80x20mm Buffer Vol. : 170ml approx. Comb: 8 well Comb Thic. :1.5 mm Capacity/well:40µl

ANNEXURE – II

TECHNICAL SPECIFICATIONS FOR THE EQUIPMENTS / INSTRUMENTS UPTO RS 1 LAKH

	Name of equipments/ instruments	Technical specification of the equipments/instruments for Tender 2014-15
1	**I-BIND WESTERN SYSTEM**	1. Instrument must be automated western processing unit capable of carrying out all steps from blocking to final wash. 2. Should provide hands-free convenience plussuperior sensitivity and reproducibility overtraditional manual methods. 3. Instrument should not require any external power supply and should work on sequential lateral flow to provide more reproducible results. 4. Instrument should allow Timely release of solutions using mechanical pressureand glass fiber-embedded membrane 5. Should be compatible with both HRP and Alkaline phosphatase chemistry with both nitrocellulose and PVDF membrane. 6. Should allow entire membrane development within 2.5 hrs. 7. Should carry all essentials
2	**FLUOROMETER**	1) Instrument should be a Fluorescence based quantification platform for DNA/ RNA and Proteins. 2) The system should have Large 5.7' Capacitive LCD color touch screen to ensure precision. 3) The system should have Automatic data logging and USB port for efficient data management. 4) The system should display Standard curve after calibration completion. 5) The system should provide long range of sample workable volume ranging from 1ul-20ul. 6) The system should be sensitive quantifying samples with concentrations as low as 10pg/ul of DNA and 12.5ug/ml of proteins. 7) The system should have internal memory storing at least 1000 analysis data. 8) System should have Dynamic range: 5 orders of magnitude 9) Processing time should not be more : ≤ 5 seconds/sample 10) Light sources: Blue LED (max ~470 nm) 11) Red LED (max ~635 nm)

		12) Excitation filters: Blue 430–495 nm Red 600–645 nm 13) Emission filters: Green 510–580 nm Red 665–720 nm 14) Detectors: Photodiodes; measurement capability from 300–1000 nm 15) Calibration type: 2- or 3-point standard 16) Tube type: 0.5-mL Real Time PCR (polypropylene) tubes 17) Warm-up time: < 35 seconds 18) The system should at least have 1 year of warranty post installation.
3	**MOBILE POCKET SIZE VETERINARY ECG MONITOR**	1. Should be easy to use and controlled by Apple I-phone 4/4S mobile phone. 2. Should be able to screen more patients, no stress or shaving required for most of the Animals. 3. Should be powerful and Clinical quality single lead ECG recorder. 4. Should provide better accuracy in rate and rhythm compared to traditional systems. 5. Should Store, email and record ECG's for print outs.
4	**pH meter**	1. It should be accurate and reliable to measure the pH of different media solutions, buffers and other laboratory use. 2. It should be able to measure the pH from 0-14 with resolution of 0.01 pH 3. It should have simple 1-, 2- or 3-point calibration routine with automatic buffer recognition plus a sensor efficiency function to ensure the most accurate data. 4. The instrument should be powered by batteries or through AC power. 5. It should have keypad with a large, easy-to-read backlit display ideal for the lab. 6. It should have laboratory grade pH/mV/temperature sensors 7. It should have large, backlit display and easy-to-use keypad 8. It should have ATC temperature sensor or manual input 9. It should have sensor efficiency check function to ensure data

<table>
<tr><td></td><td></td><td>integrity

10. It should have Calibration check facility & Calibration Error indication for 7.00 & 4.00 pH

11. All accessories required for function of instrument should be provided with the instruments.

12. It should have 2-year instrument warranty.</td></tr>
<tr><td>5</td><td>Meat Mincer</td><td>350 watt. Capacity 5kg with Kebbe attachment,
3 die plates</td></tr>
<tr><td>6</td><td>Rotary microtome semiautomatic</td><td>Automatic retraction, Cassette holder, Knife holder base, Object orientation unit, Section waste tray, Disposable blade (Pack of 50 Blades)

Technical Data:
Section thickness — Section Thickness Setting range 0.5 mm to 90 mm
Setting values — From 0.5mm – 1mm in 0.5mm increments; From 1 mm – 99mm in 1mm increment
Trimming sections
Thickness setting range — 0.5 mm99mm
Setting values — From 0.5mm – 1mm in 0.5mm increment; From 1 mm – 99mm in 1mm increment
Specimen Retraction
Motorized operation — Varying with section speed
Horizontal specimen feed — Approx. 30 mm
Vertical specimen feed — Approx. 60 mm
Sectioning modes — 1 manual mode
Maximum Specimen Size — 50mm (L) x 60mm(H) x 40(W)
Specimen Orientation — Horizontal:8^0, Vertical:8^0, Z:360^0
Operating voltages — Nominal supply voltages 100V/120V/230V/240V
Nominal frequency — 50/60 Hz
Dimensions basic instruments — 390mm
Weight (including hand wheel)
Depth (including waste tray) — 510mm
Height (with storage cover) — 305mm</td></tr>
</table>

		Weight (with accessories) Approx, 26 Kg
7	**Centrifuge**	Table top model; step-less speed regulator with zero start interlock and dynamic brake; digital speed indicator; 0-99 min. digital countdown timer; imbalance detector with cutoff; safety lid interlock to prevent cover opening during centrifuge; speed should be between 15000-20000 rpm (RCF 27440×g) with two rotors 12×15 ml and 24×1.5 ml and connected load – 0.8 KVA.
8	**Water Bath**	Fully programmable, microprocessor controlled refrigerated as well as heating circulator water bath with following features: 1. Bench top model convenient to place on a work bench of 30 inch width 2. The bath can be used for internal as well as external temperature control applications 3. Working temperature range : $\leq$ -10^{o}C to $\geq$150^{o}C 4. Heating Capacity : 2KW 5. Circulating Pump Capacity : $\geq$20 Litres/Minute 6. Temperature Stability : $\pm$ 0.01^{o}C or better 7. Bath Tank Depth : At least 15 Cm 8. Bath tank area : At least 200 Sq Cm 9. Capacity of bath tank : 7 to 10 Litres 10. Bath tank body must be made of corrosion resistant stainless steel 11. Must have a drain port for completely draining fluids from the bath tank 12. Must have digital display of set and run parameters 13. Must include all tubings, clamps and port / adapters for external circulation 14. Safety Features: Over temperature indication with audible/ visual alarms, low water level in tank warning etc. 15. Provision to on/off the circulator pump as per requirement 16. Must have RS-232 interface for data logging applications 17. Electrical power requirement : 230V, 50Hz 18. Warranty : At least two years from date of installation 19. Any other accessory that may enhance the performance of this system may be quoted as optional
9	**Double Distillation apparatus**	All quartz double distillation unit, demountable boiler panel series, vertical model. Distillation water output- 2.5 litre/h. 230-250 volt single phase 4.4 kw. Minimum cooling water requirement- 2litre/min. Biological activity- pyrogen free. Conductivity (S/cm)<1x10^{-6}.

		TOC<500 microgram/litre. Organic matter- nil, total solids <0.1 mg/litre. Distilled temperature- 65-75^{0}C. Total plate count- zero, Stanstandard plate count- zero. Yeast and mould- zero. $KMnO_4$ colour retention- 1h. UV absorbance at 254 nm- 0.007.
10	**Warburgh/ Warburg's apparatus**	Temperature bath, for determination of oxygen and carbon-dioxide uptake and release during respiration, inner chamber polished stainless steel tank, geared motor and eccentric arrangement fitted to the unit to provide uniform oscillation of manometers, immersion heater is fitted in the tank, stirrer unit is provided to keep temperature uniform throughout the tank, manometers are fitted on graduated scales or easy reading of pressure changes, Warburg's reaction flask with central well and side flask are provided for each manometer. Warranty/Guarantee card and User's Manual to be provided.
11	**Haldens gas analyzer**	Gas analyzer used for quantitative and qualitative determination /analysis of oxygen, carbon-dioxide, methane, carbon monoxide, ammonia, hydrogen, etc. Warranty/Guarantee card and User's Manual to be provided.
12	**Spirometer**	6 litre capacity, stainless still chamber, with chain compensates counter balance to float through pulley, calibrated to donate volume, inlet and outlet tubes, complete with corrugated rubber tube and mouth piece. Warranty/guarantee card be included.
13	**Ion slective electrode (ISE) electrolyte analyser**	• Principle: Direct measurement of ions with lons with ion selective electrode(ISE) • Sample: whole blood , serum, plasma(fluoride or heparinside, CSF, Urine • Parameters: Option of 2,3 or 4 ions from Na+,K+,Cl, iCa++,Li • Display: 8 lines, 20 characters/line large graphic display • Keypad: compact, numerical keypad with YES/NO keys for easy guidance of operation. • Printer : inbuilt noiseless 24 characters/ line thermal printer with ON/OFF facility • Data storage: 100 patient results and upto 90 quality control results of normal low high controls. Additional data on USB. • Calibrators: On demand and automatic 2 point calibration every 4 or 8 hour • Sampling probe: Stainless steel anti rust probe with automatic sampling and probe wiping • Electrode: Ionophore based (PVC) polymer electrode which are maintenance free and low cost. • Power supply: 110 -220 VAC,50-60 HZ,0.75 Amp. Optional battery for 5 – 10 hrs. • Reagents: Compact reagent pack with RFID (Radio frequency identification system) to avoid wastage and monitor proper availability. • Reproducibility : < 2.0% CV

14	**ELISA microplate reader**	1. Elisa plate reader with (u , v , and flate bottom) 2. Test mode end point, kinetic, multi analysis. 3. Measuring system minimum 8 channel optical system 4. Light source tungstan halogen 12v/20w. 5. Wevelength 8 filters position, 405,450,492,630 6. Reading range 0.000 – 4.000 abs. 7. Reading speed 5 secound in single wavelength and 10 secound in double wavwlength. 8. 96-well plate, multiple test in single plate. 9. Parameters can be modified and stored. 10. Plate shaking facility with variable speed and time. 11. Self cheking and clibration function facility. 12. Linearity range >0.999 13. Qc westguard multi-rule, automated qc alert 14. Open system, test item and parameters can be added or modified. 15. Large storege for 1000 test item and 1,00,000 results. 16. Large colour display. 17. Printer external jet printer, multi form patient report 18. Built in portable computer easy to use the machine. 19. Interface with rs232, usb, and pc connection.
15	**ELISA micro plate washer**	1. Microplate washer with interchangeable manifolds for 16 (8 x 2) and 24 (12 x 2)96 well or srips. 2. Minimal residual volume (<1ul/well) 3. Dispense precision cv<2% 4. Built in internal plate incubatator, temperature precision 37 $\pm$ 0.3 c 5. It could be wash flat, u or v bottom plate. 6. Manifold with two needles for aspiration and 2 for dispens avoid cross contamination. 7. Warning for waste, water, and solution. 8. Dispense volume 0-950ul, and it could be adjestable. 9. Washing cycles 1 to 99 10. Soaking time 0 to 999 secound 11. Shaking speed 0 to 999 secound 12. 100 test programs can be stored in memory. 13. It should be interface with rs 232 14. It should have large lcd display.
16	**Trevis**	1. Size: Height: 2440mm Length: 1700 mm Breath: 860 mm Cross Bar 3 Nos : 900 mm 2. Materials: a. Dia 2” G.I ‘B’ Class b. Dia 1¼” G.I ‘B’ Class (Cross Bar) c. Lock rod: 16 mm round rod d. Bottom Plate : 4 mm size 75 x 150 mm e. Cross Bar with chain and lock key f. Trevis: Bolt and Nut : 5/8” x 5” – 4 Nos g. Chain : 2 mm Thick - ¼” x 10” – 3 Nos

17	**Thin layer chromatography kit**	Comprising of moveable applicator (Spreader) with built-in arrangement, 0-2 mm, Perspex base plate 114 x 23 cm. Aluminium Carrier, Perspex spotting temp. plate, developing chamber with lid, Five T.L.C. plates 20 x 20 cm., two T.L.C. plates 20 x 5 cm., scriber for marking lines, micropipette and glass sprayer with rubber bellow. **With Chrome plated Brass Applicator** **With Aluminium Applicator**
18	**Chromatography cabinet for paper chromatography**	This is made of wood with glass on all four sides and on top internal surface is wax coated for solvent resistance. Hinged top provided with rubber gasket for air tight closing and window with air tight door. In lower portion heavy castors provided for easy movement. Finished in natural colour nitrocellulose lacqure. Supplied as standard equipment are two stainless steel troughs and six glass rod. For accomodating 4 filter papers of 45 x 57 cm
19	**Photo electric colorimeter**	Compact digital blood end chemical analyzer, with end point chemical and biochemical analysis displayed on digital display high standard glass filters ranging from 400-680 wavelength, complete the 6.8 Volt/250 mA tungsten lamp light source special selenium photo cell detector and sample system of 15 mm diameter matched glass cuvettes
20	**Horizontal gel apparatus** **Power supply unit:**	Gel size should be 7 X 10 cm which can resolve upto 30 samples, Should have quick snap electrode assembly, Should have casting gates to cast directly in the electrophoresis cell. Gel casters should offer the flexibility of accommodating several different size UV Transparent gel trays. UV transparent tray for horizontal system : 2 no,. Output Range (programmable) , Approx. Volts: 10-300 V; Current: 4-400 mA; Power: 75 W , Timer: 1-999 min; Display: 3 digit LED ; No. of Output jacks: 4 sets in parallel, Safety Features: No Load detection, sudden load change detection, overload/short circuit detection, over voltage protection , Should have regulatory certification: EN-61010, CE
21	**"A' type & California type Layer cages**	California - Cage Size - 20" X 18" X 15" X 13" - No.of Birds - 05/Box 'A' - Cage Size - 20" X 15" X 17" X 15" - No. of Birds - 05/Box
22	**Milk analyzer**	High measurement speed, Inbuilt Fan for Indian weather, Very high reliability & Accuracy, Separate serial ports for Printer & P C. Fat: Range 0.12, Resolution 0.01% SNF: Range 0.15 Resolution 0.01% Added Water 0-100 Resolution 0.01% Repeatability- ±0.05% Accuracy- ±0.10% Power Supply- 120-220Vac

TENDER FORM

TERMS AND CONDITIONS OF TENDER FOR PURCHASE OF LABORATORY EQUIPMENTS DURING THE YEAR 2014-2015

M/s _____
_____
_____

1. The tenders can be received from the Office of the Dean, College of Vety. Sci. & A.H., Rewa, by submitting the Indian postal Order or **Demand Draft of Rs.1,000/-** or can be downloaded from the website of the University **www.mppcvv.org.** up to **30.01.2015 before 05:00PM**. In case the tender has been downloaded from the website of the University tender has to be submitted along with Indian postal Order or **Demand Draft of Rs.1,000/-** in the name of the Dean, College of Veterinary Science & Animal Husbandry, Rewa, contain separate envelopes and mention tender cost in block letter.
2. Tenders must be submitted in sealed cover addressed to the undersigned by **Registered / Speed Post only** and with acknowledgement due so as to reach on or before **06.02.2015 up to 05:00 P.M.** The cover shall bear the address of the tenderer and super scribed with the words.
3. The tender will be opened in presence of the tenderers or their authorized representatives at **03.00 P.M. on 07.02.2015**. In case any tenderer fails to present himself on the appointed time, the competent authority shall have the right to open any tender in the absence of the concerned tenderer or his representative.
4. The tender shall not be acceptable without the receipt of earned money/security deposit in the shape of **Fixed Deposit Receipt (FDR)** only of **Equivalent to 3% of the cost of each equipment/ item for Equipments** issued by any Nationalized Bank duly discharged in the name of " Dean, College of Veterinary Science & Animal Husbandry, Rewa" which will be refunded after warranty period.
5. The above amount of earnest money/security shall be refunded in full if the tender is rejected.
6. The tenders are to be submitted in four envelopes. **Envelope-A** will contain FDR as earnest money/ security deposit for the items. **Envelope-B** will contain the detail specifications of different equipments and all other documents related to tender. **Envelope-C** will contain specifications in brief **(including name of the manufacturing company/make/model etc. as per the enclosed proforma with appendix)** along with price bid for different items. **Envelope-D** will contain all the above three and tender cost envelopes. All the envelopes should be properly sealed.
7. The above security is taken for due performance of the contract as per provisions of the conditions mentioned in tender form. The same will be refunded on the expiry of the contract on successful completion of the supply with reference to specifications with proper supply and adjustment of any loss by way of purchasing the goods from other party / parties in case of dishonoring of the indent for supply and deliberate non supply.
8. Specifications are attached as **ANNEXURE I** along with Terms & Conditions.
9. Quantity of the items to be purchased will depend up on the requirement and their shall be no obligation to place order for any quantity of the item.

10. **Reputed firms, manufacturers and their authorized dealers should only submit the tenders for ANNEXURE I without which no tender will be accepted. In case authorized dealers is submitting the tender certificate of authorized dealership from the company should be enclosed along with the tender.**
11. The tender should be accompanied by detailed printed technical literature (**in original - both hard & soft copy**) specification, make and model number of each item and each sub-item quoted in the tender. Specifications given in the offer must match to the printed technical literature.
12. Please compile a comparative chart of required specifications, with your quoted specifications, which is mentioned in your original literature (**both soft and hard copy**).
13. Please provide maximum discount. No further negotiation will be done.
14. No person or Firm is permitted to submit more than one tender under different names.
15. Tenders shall not be accepted without sales tax registration number of the firm.
16. All tenders must be accompanied by an **Income Tax clearance certificate** pertaining to the financial year **2013-2014**, assessment year **2014-2015** without which the tenders shall not be entertained or in exceptional case where the income tax department has given a certificate that the concerned firm has been newly started. Tenders will be accepted only from those dealers who pay regular income taxes.
17. The rates of tender shall not be altered by the tenderer during the contract of supply.
18. The competent authority (Dean, College of Vety. Sci. & A.H., Rewa) reserves the right to accept or reject any or all offers in full or in part without assigning any reason(s) therefore, it also reserves the right to place an order wholly or in part with one or more than one firm as they may be convenient to the College.
19. The submission of a tender by a tenderer implies that he has read all the terms and conditions of tender/contract and is fully aware of the scope and specification of the supplies to be made. He also must satisfy himself regarding the suitability and availability of the materials. **The tenderer, who is not satisfied by our terms and conditions of the contract need not submit the tender.**
20. The competent authority (Dean, College of Vety. Sci. & A.H., Rewa) reserves the right to increase, decrease or withdraw any item/items of supply during the contract under tender and the tender will be bound to comply without any claim for compensation.
21. **The rates quoted shall be F.O.R. delivery at College of Vety. Sci. & A.H., Rewa for ANNEXURE I.** The rates quoted should be inclusive of packing and forwarding charges loading/unloading/ handling charges, freight, full risk coverage, insurance, etc.
22. The supply of material of order, should reach within **2-4 week** to destination from the date of issue of supply order. In case the tenderer fails to execute the orders of supply within the stipulated period, the competent authority (Dean, College of Vety. Sci. & A.H., Rewa) will forfeit the security amount and will be free to make alternate arrangement for purchase of goods. The difference in cost of purchase from open market on quotation basis and approved tender rate will be recovered from the security of the tenderer and / or bills pending for payments it will be decided by the Dean. Further, defaulter firm, who has failed to supply the goods within prescribed period, may not be considered during next term or tender.
23. All leases during transit i.e. breakage and shortage etc. will have to be supplied by the tenderer at his own cost within a period of **15 days** from the date of receipt of such notices.

24. The undersigned does not bind himself to accept only the lowest rates.
25. The tenderer shall not submit whole or any portion of the contract to any party or parties, else the competent authority is free to cancel the contract and forfeit the security deposit.
26. **The VAT TAX has to be shown separately which will be deducted by the institute and certificate regarding this will be issued by the institute**. All other taxes if any has to be paid by the supplier himself.
27. Excise duty, sales tax (with and without concession certificate) and other levies, if any should be shown separately and the total price of each item should be worked out incorporating the same. Custom duty exemption certificate will be not provided for imported items.
28. Single rate should be offered for the entire tender period i.e. up to **31.03.2015**. Rates quoted for less than this period are liable to be rejected.
29. In case of any dispute arising out of this contract the arbitration power rests with the Vice-Chancellor, NDVSU, Jabalpur whose decision will be final to both the parties.
30. If any dispute, the legal area of jurisdiction will be Rewa (M.P.)
31. Tenders once submitted by the tenderer cannot be withdrawn by the tenderer.
32. Tenderer has to write clearly the name, address, and telephone/mobile number of the firm.
33. Photocopy of sales registration (Original registration will have to be produced within a week for verification if the tender is approved).
34. Please quote the rates in Indian Currency.
35. A demonstration of the equipments supplied will be done at College of Veterinary Science and Animal Husbandry, Rewa by the supplier free of cost.
36. **An agreement accepting above terms and conditions and signed by authorised signatory should be submitted on a non-judicial stamp of Rs. 100/ along with tender documents.**

DEAN
College of Vety Sci & AH
Kuthulia, Rewa (MP)